What is claimed is:

1. A tapered roller bearing comprising an outer ring having a conical raceway, an inner ring having a conical raceway and formed with a large rib surface on the large diameter side of said conical raceway, a plurality of tapered rollers rollably arranged between said raceway of said outer ring and said raceway of said inner ring, and a retainer for keeping said tapered rollers circumferentially spaced a predetermined distance from each other, characterized in that said outer ring, said inner ring and said tapered rollers are all formed from a steel having an oxygen content of 9 ppm or less, and that a carbo-nitrided layer having a carbon content of 0.80 wt% or more and a Rockwell hardness HRC of 58 or more is formed on surfaces of said outer ring, said inner ring and said tapered rollers, and that the retained austenite content of said carbo-nitrided layer is 25 to 35 vol%.

2. A tapered roller bearing comprising an outer ring having a conical raceway, an inner ring having a conical raceway and formed with a large rib surface on the large diameter side of said conical raceway, a plurality of tapered rollers rollably arranged between said raceway of said outer ring and said raceway of said inner ring, and a retainer for keeping said tapered rollers circumferentially spaced a predetermined distance from each other, characterized in that a carbo-nitrided layer having a carbon content of 0.80 wt% or more and a Rockwell hardness HRC of 58 or more is

formed on surfaces of said outer ring, said inner ring and said tapered rollers, that the retained austenite content of said carbo-nitrided layer is 25 to 35 vol%, and crownings are formed at both ends of said raceway of said inner ring, and that the width of each said crowning is 20% or less of the width of said raceway of said inner ring.

3. The tapered roller bearing as claimed in claim 2 wherein a crowning having a moderate curvature is formed on a portion of said raceway of said inner ring except both ends thereof at which said crownings are formed.

4. A tapered roller bearing comprising an outer ring having a conical raceway, an inner ring having a conical raceway and formed with a large rib surface on the large diameter side of said conical raceway, a plurality of tapered rollers rollably arranged between said raceway of said outer ring and said raceway of said inner ring, and a retainer for keeping said tapered rollers circumferentially spaced a predetermined distance from each other, characterized in that said inner ring has a large rib surface made up of a conical surface brought into contact with large end faces of said tapered rollers, and a flank smoothly connecting with said conical surface and curving in a direction away from the large end faces of said tapered rollers.

5. The tapered roller bearing as claimed in claim 4 wherein said flank has a circular section.

6. The tapered roller bearing as claimed in claim 5 wherein a circular recess is provided on the central portion of each of the large end faces of said tapered rollers, and the outer peripheral end of said recess extends to near the boundary between said conical surface and said flank of said large rib surface of said inner ring.

7. The tapered roller bearing as claimed in claim 6 wherein the boundary between said conical surface and said flank of said large rib surface of said inner ring is provided near the outer edge of the maximum contact oval produced by the contact between the large end faces of said tapered rollers and the large rib surface of said inner ring under the maximum permissible axial load of said tapered roller bearing.

8. The tapered roller bearing as claimed in claim 4 wherein a circular recess is provided on the central portion of each of the large end faces of said tapered rollers, and the outer peripheral end of said recess extends to near the boundary between said conical surface and said flank of said large rib surface of said inner ring.

9. The tapered roller bearing as claimed in claim 8 wherein the boundary between said conical surface and said flank of said large rib surface of said inner ring is provided near the outer edge of the maximum contact oval produced by the contact between the large end faces of said tapered rollers and the large rib surface of said inner ring under the

maximum permissible axial load of said tapered roller bearing.

10. The tapered roller bearing as claimed in claim 4 wherein the boundary between said conical surface and said flank of said large rib surface of said inner ring is provided near the outer edge of the maximum contact oval produced by the contact between the large end faces of said tapered rollers and the large rib surface of said inner ring under the maximum permissible axial load of said tapered roller bearing.

11. A gear shaft support device for a vehicle in which a gear shaft is rotatably supported by tapered roller bearings in a housing in which is sealed gear oil, characterized in that said tapered roller bearings each have an outer ring, an inner ring and tapered rollers formed from a steel having an oxygen content of 9 ppm or less, and that a carbo-nitrided layer having a carbon content of 0.80 wt% or more and a Rockwell hardness HRC of 58 or more is formed on surfaces of said inner ring, said outer ring and said tapered rollers, said carbo-nitrided layer having a retained austenite content of 25 to 35 vol%.

12. A gear shaft support device for a vehicle in which a gear shaft is rotatably supported by tapered roller bearings in a housing in which is sealed gear oil, said tapered roller bearings each having an outer ring, an inner ring and tapered rollers, characterized in that a carbo-nitrided layer

having a carbon content of 0.80 wt% or more and a Rockwell hardness HRC of 58 or more is formed on each of the surfaces of said outer ring, said inner ring and said tapered rollers, that said carbo-nitrided layer has retained austenite content of 25 to 35 vol%, and that crownings are formed at both ends of said raceway of said inner ring, the width of each said crowning being 20% or less of the width of said raceway of said inner ring.

13. The gear shaft support device as claimed in claim 12 wherein a crowning having a moderate curvature is formed on a portion of said raceway of said inner ring except both ends thereof at which said crownings are formed.

14. A gear shaft support device for a vehicle in which a gear shaft is rotatably supported by tapered roller bearings in a housing in which is sealed gear oil, said tapered roller bearings each having an outer ring, an inner ring, and tapered rollers, characterized in that said inner ring has a large rib surface made up of a conical surface brought into contact with large end faces of said tapered rollers, and a flank smoothly connecting with said conical surface and curving in a direction away from the large end faces of said tapered rollers.

15. The gear shaft support device as claimed in claim 14 wherein said flank has a circular section.

16. The gear shaft support device as claimed in claim 15

wherein a circular recess is provided on the central portion of each of the large end faces of said tapered rollers, and the outer peripheral end of said recess extends to near the boundary between said conical surface and said flank of said large rib surface of said inner ring.

17. The gear shaft support device as claimed in claim 15 wherein the boundary between said conical surface and said flank of said large rib surface of said inner ring is provided near the outer edge of the maximum contact oval produced by the contact between the large end faces of said tapered rollers and the large rib surface of said inner ring under the maximum permissible axial load of said tapered roller bearing.

18. The gear shaft support device as claimed in claim 14 wherein a circular recess is provided on the central portion of each of the large end faces of said tapered rollers, and the outer peripheral end of said recess extends to near the boundary between said conical surface and said flank of said large rib surface of said inner ring.

19. The gear shaft support device as claimed in claim 18 wherein the boundary between said conical surface and said flank of said large rib surface of said inner ring is provided near the outer edge of the maximum contact oval produced by the contact between the large end faces of said tapered rollers and the large rib surface of said inner ring under the maximum permissible axial load of said tapered roller

bearing.

20. The gear shaft support device as claimed in claim 14 wherein the boundary between said conical surface and said flank of said large rib surface of said inner ring is provided near the outer edge of the maximum contact oval produced by the contact between the large end faces of said tapered rollers and the large rib surface of said inner ring under the maximum permissible axial load of said tapered roller bearing.